

for

- THE UNIVERSITY OF CHICAGO

second  
pressure pulse

- 10 //

4. The method as recited in claim 1 wherein the pressure in the extracorporeal blood circulation path is monitored in the venous blood line.
5. The method as recited in claim 1 wherein the pressure in the extracorporeal blood circulation path is monitored in the arterial blood line.
6. The method as recited claim 1 further comprising triggering an alarm when the faulty vascular access is deduced.
7. The method as recited in claim 1 further comprising interrupting blood flow in the extracorporeal blood circulation path when faulty vascular access is deduced.

8. An apparatus for dialysis treatment comprising:
- a dialyzer subdivided by a semipermeable membrane into a blood chamber and a dialysis fluid chamber;
  - an extracorporeal blood circulation path including an arterial blood line and a venous blood line, the arterial blood line being connected to an inlet of a blood chamber, the venous blood line being connected to an outlet of the blood chamber;
  - a dialysis fluid path having a dialysis fluid inlet line and a dialysis fluid outlet line, the dialysis fluid inlet line being connected to an inlet of the dialysis fluid chamber, the dialysis fluid outlet line being connected to an outlet of the dialysis fluid chamber;
  - a pressure pulse generator disposed in the dialysis fluid path for generating pressure pulses; and
  - a device for monitoring a vascular access during the dialysis treatment, the device including a pressure sensor and an analyzer unit, the pressure sensor for monitoring a pressure of the blood in the extracorporeal blood circulation path so as to be able to sense the pressure pulses and for producing a corresponding signal and the analyzer unit for monitoring the corresponding signal and for determining that the vascular access is faulty upon a characteristic change in the pressure pulses.

9. The apparatus as recited in claim 8 wherein the pressure pulse generator includes a balancing device connected in the dialysis fluid inlet line and the dialysis fluid drain line for balancing fresh and spent dialysis fluid, the balancing device having at least one balancing chamber subdivided by a movable partition into two balancing chamber halves having chamber inlet and drain lines and having cutoff elements disposed in the chamber inlet and drain lines.

10. The apparatus as recited in claim 8 wherein the analyzer unit includes a memory for storing a pressure pulse characteristic signal of a proper vascular access and a central processor for comparing a measured pressure pulse signal with the pressure pulse characteristic signal, and for detecting a faulty vascular access upon a certain signal deviation.

11. The apparatus as recited in claim 8 wherein the pressure sensor is disposed in the venous blood line.

12. The apparatus as recited in claim 8 wherein the pressure sensor is disposed in the arterial blood line.

13. The apparatus as recited in claim 8 further comprising an alarm generator for generating an alarm when the faulty vascular access is deduced.

14. The apparatus as recited in claim 8 further comprising an interruptor for interrupting blood flow in the extracorporeal circulation path when the analyzer unit detects the faulty vascular access.